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Sexual risk, serostatus and intimate partner violence among couples during pregnancy in rural South Africa

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Background: Though male to female transmission of HIV has been estimated as 2.3 times greater than female to male transmission, the risk of HIV acquisition rises for both men and women during pregnancy. This change is likely to be due to both sexual risk behaviours and to hormonal changes affecting the genital tract mucosa or immune responses. The aim of this study was to describe sexual risk behavior among couples during pregnancy in rural South Africa and to examine the relationship of sexual risk behavior with HIV serostatus and intimate partner violence.

Methods: This study recruited 239 couples (n = 478 individuals) from 12 community health centres (about 20 couples per clinic) in Nkangala and Gert Sibande health districts, Mpumalanga province, South Africa. Female participants were pregnant (24-30 weeks gestation), aged 18 and older and had received HIV counselling and testing (HCT) at the antenatal care clinic; male participants were aged 18 or older with an enrolled pregnant partner.

Results: One third (31.8%) of pregnant women and 20.9% of male partners were HIV positive. HIV risk factors included lack of knowledge of partners' HIV serostatus (46.9% of women and 51.9% of men were unaware), unprotected sexual intercourse in the past week (47.7% of women and 51.9% of men had at least one incident) and multiple sexual partners in the past month (10.0% of women and 17.6% of men had at least one additional partner). Among men, multivariate logistic regression identified awareness of HIV negative partner status, multiple sexual partners and low levels of minor intimate partner violence as associated with unprotected intercourse. Among women, only Zulu or Swati ethnicity was associated with unprotected intercourse in the past week. HIV positive concordance was associated with protected sex and in multilevel analysis of couples HIV positive status and awareness of the HIV positive status of the partner were associated with protected sex.

Conclusion: High levels of HIV risk behaviour was found among couples during pregnancy calling for HIV risk reduction interventions.

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Long-term outcome of HIV-infected children in Thailand: the Thailand pediatric HIV observational database

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Background: Limited data are available regarding the natural history of HIV, antiretroviral (ARV) regimens, and long-term outcomes of HIV-infected children from developing countries. We describe a cohort of HIV-infected children who started ARV in Thailand.

Methods: Data of pediatric HIV-infected cohort from 4 collaborative referral sites inThailand were analyzed. All sites are able to access to HIV RNA and CD4 testing. Children were followed clinically every 3 months. CD4 counts, percentage and HIV RNA were monitored every 6 and 12 months, respectively. Data were collected prospectively from 2008 until March 2011. Retrospective data were retrieved from the first clinic visit. Lost to follow up was defined as no clinic data available after 31 March 2010.

Results: Of 1,229 children enrolled, 1,153 initiated ARV. Of these, 609 (53%) were female, and median (IQR) age at starting ARV was 7 (4-10) years. Ninety-seven percent (1,115) acquired their infection through mother-to-child transmission. Median (IQR) CD4 percentage at ARV initiation (available data in 905 children) was 9 (3 – 17)%; 303 (26%) were < 5%. Of 305 children with available data, median (IQR) baseline HIV RNA was 5 (5 – 6) log10 copies/mL. Of 721 children with available baseline CDC clinical staging, 422 (59%) were moderately to severely symptomatic. Seventy-two percent of the initial regimens were non-nucleoside reverse transcriptase inhibitor (NNRTI)-based. The median (IQR) duration of follow-up was 5 (3 – 7) years. Over 6,185 patient-years of follow-up (PYFU) there were 82 deaths and 138 children were lost to follow-up, giving death and lost to follow-up rates of 1.3 (95% CI 1.1 – 1.6) and 2.2 (95% CI 1.9 – 2.6) /100 PYFU, respectively. The majority of deaths (78%) were from HIV-related conditions. Of children under active follow-up and currently taking ARV (n = 901), median (IQR) CD4 percentage was 27 (23 – 32)%, 80% had HIV-RNA <40 copies/mL), and 90% had HIV-RNA <200 copies/mL.

Conclusion: Although most Thai children in this cohort initiated ARV when they had advanced HIV infection, the long-term outcomes demonstrated close-to-normal CD4 and the majority achieved virologic control.

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Self-report of life style on dietary intake and exercise in perinatal HIV-infected adolescents

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Background: There was limited data on diet and life style of adolescents with vertically-transmitted HIV infection. Multifactorial factors affect on weight, height and bone density in this age group especially dietary intake, exercise and antiretroviral medications. This study aimed to report on the dietary intakes and physical activity in this adolescent group.

Methods: We conducted a cross-sectional study using self-report questionnaires on dietary intake and exercise among HIV-infected adolescents. The dietary intake was analysed using INMUCAL-Nutrients program, Database WD4.4. 2010 (Institute of Nutrition, Mahidol University). The weight for age Z-score and height for age Z-score were analyzed using Thai reference. The standard dietary reference intake (DRI) for energy was 2,100-2,300 calories for male and 1,800-1,850 calories for female, and calcium was 1,000 mg/day in this age group. General recommendation suggested at least 1 hour/day of physical activity.

Results: The study included 101 HIV-infected adolescents, 50% were male. The mean (SD) of age was 14.6 (1.9) years. The mean (SD) of body mass index was 18 (2.8), weight Z-score (WAZ) was -0.76 (1.2), height Z-score (HAZ) was -1.0 (1.2). Number of adolescents who had WAZ < -1.5 SD was 33 and HAZ < -1.5 SD was 34. Mean (SD) of caloric and calcium intake were 1,559 (440) kcal/day and 635 (337) mg/day, respectively. Percentage of adolescents who took adequate calorie and calcium and protein as recommended by DRI were only 19%, 17% and 69%, respectively. Mean (SD) weight-bearing exercise was 5.9 (6.4) hours/week and non-weight bearing exercise was 3.1 (4.5) hours/week.

Conclusion: The majority of adolescents did not reach DRI for caloric and calcium intake. Clinician should encourage the important of dietary intake and exercise for this group of patients. Supplement calcium in growing adolescent should be considered.

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Low prevalence of HLA B5701 among HIV-infected Thai children in Thailand and Cambodia; implication for abacavir use

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Background: Abacavir is a nucleoside reverse transcriptase inhibitor for treating human immunodeficiency virus (HIV) infection with minimal mitochondrial toxicity and lipodystrophy. Abacavir hypersensitivity is strongly associated with the human leukocyte antigen (HLA)-B*5701 allele. HLA-B*5701 screening, recommended prior to initiating abacavir especially in population with prevalence > 5%, is not widely accessible in the developing world. The prevalence of HLA*5701 in Caucasians is as high as 7-9%. However, there are limited data among Asians.

Methods: This is a substudy of the PREDICT study, a randomized trial of immediate versus deferred antiretroviral initiation in HIV-infected children aged 1-12 years in Thailand and Cambodia. The HLA typing was performed by Hiseq single-end sequencing of the amplicon and analysis by the Bejing Genomic Institute developed software.

Results: There were 140 HIV-infected children in this substudy. The median (interquartile range) age was 6.5 (4.2-8.7) years, 36% were male, 80 (57%) were Thai and 60 (43%) were Cambodian. The prevalence of HLA-B*5701 was 2.5% (95% CI 3.0-8.7%) among Thai and 1.7% (95%CI 0.4-8.9%) among Cambodian children.

Conclusion: While routine screening for HLA-B*5701 prior to initiating ABC is recommended when available, this study suggests that HLA-B*5701 prevalence in Thai and Cambodian children may be under 5%. Early detection of ABC hypersensitvity reaction (HSR) through close clinical monitoring remains important, whether or not HLA-B*5701 screening has been performed.

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